In the Specification:

Amend the paragraph at Col. 1, lines 9-23, as follows:

Conventional acoustic wave imaging systems use a one dimensional (1-D) array of electro-acoustic transducers, for example, a 1 X 100 array, and have been configured to achieve linear, curved linear and sector scanning. Coherence in the transmission and receipt of acoustic signals is achieved by the utilization of delay devices in the signal processing channels. Present one dimensional systems are disadvantageous due to (1) the manner in which they are constructed and (2) inherent limitations in their scanning capabilities. With respect to the manner in which they are constructed, one disadvantage is that the use of delay elements[,] and related electronics adds considerably to the cost of one dimensional systems. With respect to inherent limitations, one dimensional scanning systems are disadvantageous in that they only provide two dimensional images.

Insert the following paragraph at Col. 2, line 19:

It is also an object of the present invention to transmit and/or receive acoustic energy with these 1-D or 2-D acoustic arrays.

Amend the paragraph at Col. 2, lines 19-21, as follows:

These and related [objective] objectives of the present invention are achieved by use of the acoustic wave imaging system and method described herein.

Amend the paragraph at Col. 2, lines 41-49, as follows:

In one embodiment, the present invention comprises a plurality of electro-acoustic [transducer] transducers, each capable of generating an electrical signal indicative of an incident acoustic wave; means in communication with each [transducers] transducer for generating a coded signal for transmission by each of said transducers; and means in communication with each of said transducers for modifying a coded signal received by the transducers to achieve a desired delay.

Amend the paragraph at Col. 2-3, lines 62-4, respectively, as follows:

And in yet another of many embodiments, the present invention includes an array of electro-acoustic transducers having a plurality of rows and columns; a plurality of row control lines, each of which is coupled to the transducers in one of said plurality of rows; a plurality of column controls lines, each of which is coupled to the transducers in one of said plurality of columns; and control means coupled to each of said plurality of row and column control lines for generating a control signal for each [transducers] <u>transducer</u> that is a combination of control signals on the row and column control lines for that transducer.

Amend the paragraph at Col. 4, lines 13-34, as follows:

Referring to FIG. 1, a perspective view of an acoustic wave imaging system 10 in accordance with the present invention is shown. The system 10 includes interface circuit 20 which is connected via line 85 to operator interface componentry represented by reference numeral 80 and via line 75 to a display mechanism 70. Both the operator interface componentry 80 and the display mechanism 70 are known in the art and are discussed in more detail below with reference to FIG. 3. The interface circuit 20 is also connected, via line 22, to a row control circuit 30 and, via line 28, to a column control circuit 40. The row and column control circuits 30,40 control the phase and frequency of signals propagated to a plurality [a] <u>of</u> M rows and N columns in an array 100 of acoustic transducer elements. Each transducer element [comprises a acoustic transducer] (cells 110,[120,]140,170,180,190 are indicated in FIG. 1) [and its] <u>includes a</u> corresponding transducer (shown in FIG. 2). The row control signals are propagated over M row control lines or processing channels, represented generally by arrow 35, and the column control signals are propagated over N column control lines or processing channels, represented generally by arrow 45.

Amend the paragraph at Col. 5, lines 3-13, as follows:

FIG. 2 illustrates 9 transducer cells 110 [(not labelled in FIG. 2 due to crowding in the figure, but labelled in FIG. 1)], 120,130,140,150,160,170,180,190 and their corresponding acoustic transducers <u>115,</u>125,135,145,155,165,[176]<u>175</u>,185,195. In the composite implementation, each transducer is mounted to its corresponding cell in the same manner that transducers are connected to semiconductor

substrates in IR focal plane arrays or the like. The dotted lines are provided to indicate that the number of cells is variable and may be modified in either dimension. Cell 150 is surrounded by a dashed line and will be described as a representative cell.

Amend the paragraph at Col. 5, lines 46-58, as follows:

The row control circuit 30 consists of a plurality of individual row signal generating circuits 231. A first of these [in] <u>is</u> connected via line 251 to the first mixer of cells 110,120,130. Similarly, a second and a last row signal generating circuit 231 are connected via lines 252 and 253 to cells 140,150,160 and cells 170,180,190, respectively. The column control circuit 40 consists of a plurality of individual column signal generating circuits 241. A first of these [in] <u>is</u> connected via line 261 to the first mixer of cells 110,140,170. A second and a last column signal generating circuit 241 are connected via lines 262 and 263 to cells 120,150,180 and cells 130,160,190, respectively.

Amend the paragraph at Col. 7, lines 5-13, as follows:

Referring to FIG. 4, a frequency versus time diagram is shown for a linear FM chirp. Chirps as a characterized electrical signal and matched filters therefor are generally known<u>.</u> Though an up chirp is shown it should be recognized that since the attenuation of sound is strongly dependent on frequency, a down chirp may also be used and may be more appropriate in some instances. Furthermore, it may also be appropriate to transmit high frequencies at a higher voltage level.

Amend the paragraph at Col. 9, lines 8-22, as follows:

FIG. 2 shows several cells and transducers of the active 2-D array 100. Here each array element is connected to the output of its own electronic mixing circuit. One input of [the] each mixer is connected to an electrode that is shared by all other array elements on a given row. Likewise, the other input is connected to the corresponding column electrode. Mixing the external row and column signals together produces two signal components at each array element, one that is the sum of the frequency and phase of the row signal and column signal, and the other which is the difference. By choosing the frequency of the row and

column signals such that only the difference (or sum) frequency is within the pass-band of the transducer ensures that only the difference (or sum) frequency (and phase) component will be radiated from the array.

Amend the paragraph at Col. 9, lines 40-46, as follows:

Together with array 100, control signal generators 30,40 comprise the beamforming process of system 10. The frequency and phase of the row and column array control signals determine the focus and angle of the transmit and receive beams in accordance with the equations herein. Having generally introduced transmit and receive operations, broadband applications [is] <u>are</u> now discussed.